



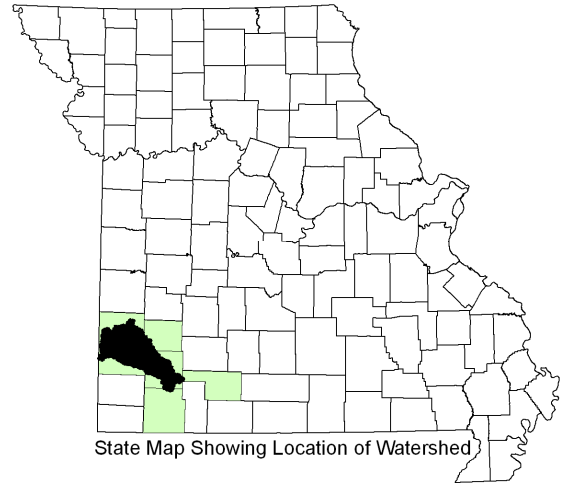
Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Spring River

Water Body Segment at a Glance:

Counties:	Lawrence/Jasper
Nearby City:	Carthage
Length of impaired segment:	58.5 miles
Pollutant:	Bacteria
Source:	Urban/Rural Point and Nonpoint Sources
Water Body ID:	3160



State Map Showing Location of Watershed

Scheduled for TMDL development: 2013

Description of the Problem

Beneficial uses of Spring River

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation – Category A
- Secondary Contact Recreation
- Cool Water Fishery
- Irrigation
- Industrial Uses

Use that is impaired

- Whole Body Contact Recreation – Category A

Standards that apply

Missouri's Water Quality Standards at 10 CSR 20-7.031(4)(C) state that the *E. coli* bacteria count shall not exceed 126 colonies per 100 milliliters of water (126 col/100 mL) for Category A and 206 col/100 mL for Category B waters. This count is the geometric mean during the recreational season (April 1- October 31) in waters designated for whole body contact recreation.

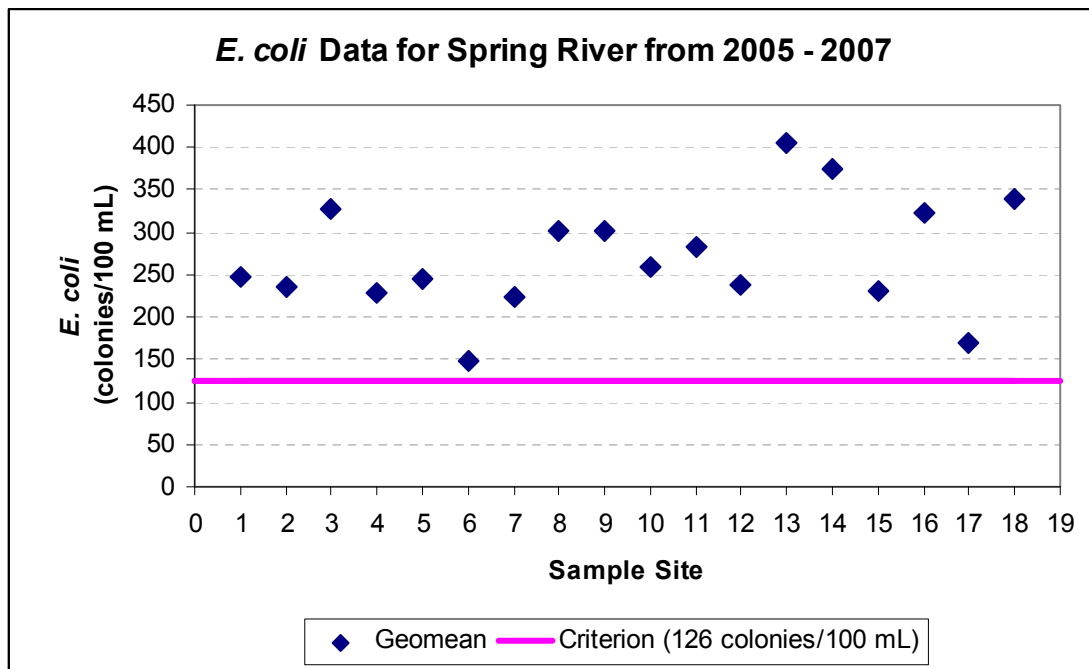
Background information and Water Quality Data

The Spring River touches six counties in western Missouri and crosses over into Kansas just north of Joplin. It is designated as Category A for whole body contact recreation use, which means it has swimming areas which are open to and fully accessible by the public.

Excessive amounts of fecal bacteria in surface water used for recreation are an indication of an increased risk of pathogen-induced illness to humans. Infections due to pathogen-contaminated waters include gastrointestinal, respiratory, eye, ear, nose, throat and skin diseases. *E. coli*, are bacteria found in the intestines of warm blooded animals and used as indicators of the risk of waterborne disease from pathogenic (disease causing) bacteria or viruses. Most *E. coli* strains are harmless, but some can cause serious illness in humans and are occasionally responsible for product recalls. The harmless strains are part of the normal flora of the intestines, and can benefit their hosts by preventing the establishment of pathogenic bacteria within the intestine^{1,2}. Missouri's bacteria criteria are based on specific levels of risk of acute gastrointestinal illness. The levels of risk correlating to these criteria are no more than eight illnesses per 1,000 swimmers in fresh water.

The bacteria impairment in the Spring River is based on data collected by the Lawrence County Health Department, the Jasper County Health Department and the Carthage High School stream team from 2005-2007. The geometric mean for the recreational season data exceeded the criterion of 126 col/100 mL for Category A waters at every site in at least one of those three years.

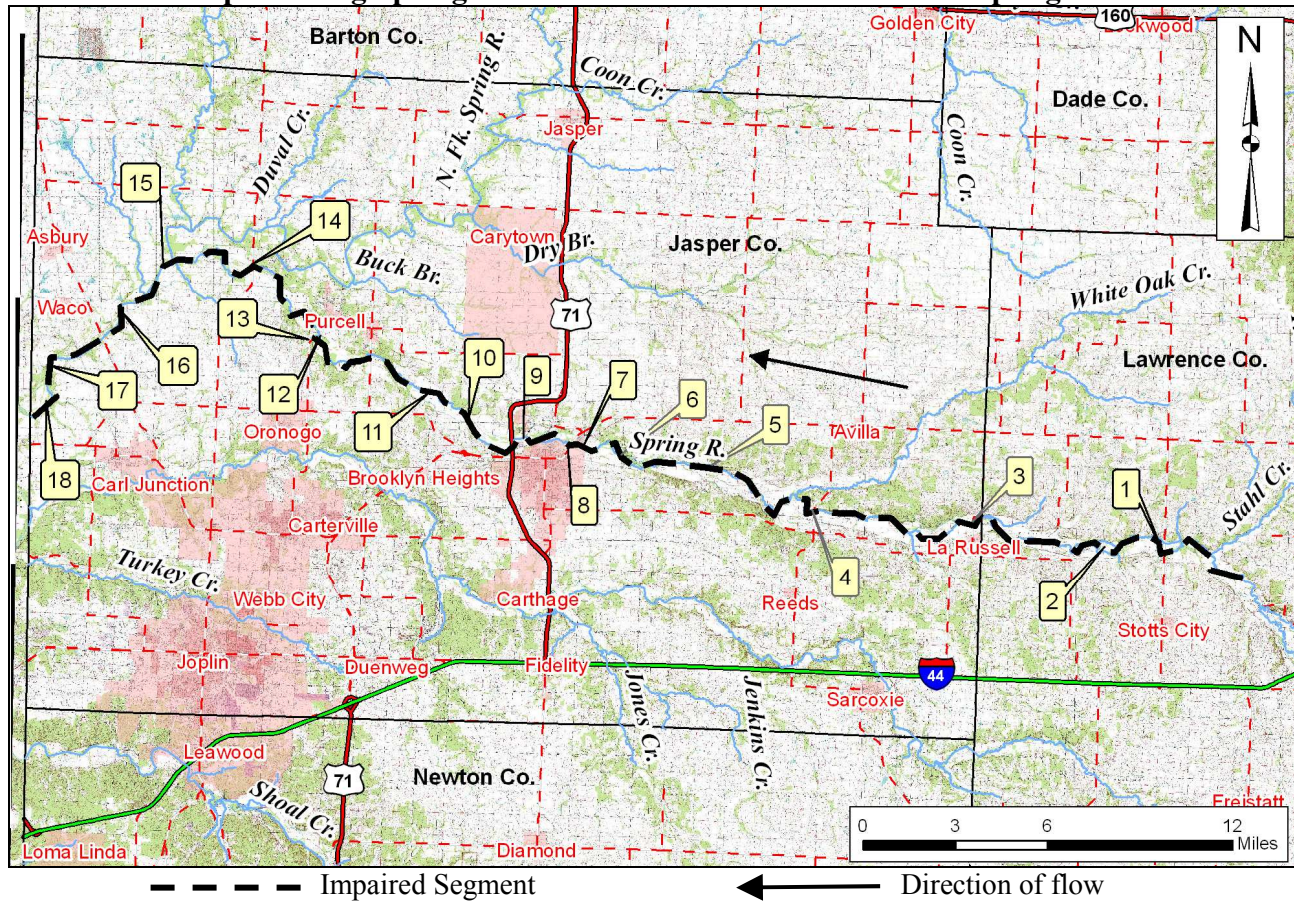
People can protect themselves from waterborne illness by avoiding contact with contaminated water. However, when swimming anywhere, it is wise to take commonsense precautions. These include washing hands before eating, showering after swimming and avoiding exposure to questionable water if you have open cuts or wounds.



¹ Hudault S, Guignot J, Servin AL (July 2001). "[Escherichia coli strains colonising the gastrointestinal tract protect germfree mice against Salmonella typhimurium infection](#)". *Gut* **49** (1): 47–55

² Reid G, Howard J, Gan BS (September 2001). "Can bacterial interference prevent infection?". *Trends Microbiol.* **9** (9): 424–8.

Map Showing Spring River in Southwest Missouri and Sampling Sites



Sample Sites			
1	Spring R. @ Hwy 97, north of Stotts City	10	Spring R. 1.8 mi. bl. Carthage WWTP
2	Spring R. @ CR 1040	11	Spring R. 4 mi. NW of Carthage
3	Spring R. @ HWY U	12	Spring R. @ 6th St nr Hwy DD
4	Spring R. @ Hwy 37	13	Spring R. @ Quaker Rd.
5	Spring R. at Forest Mills	14	Spring R. @ Hwy 43
6	Spring R. ab. Carthage	15	Spring R. upstream CR 270 .1 mi
7	Spring R. @ Easterly Dr (Old Hwy 96)	16	Spring R. 2 mi. E. of Waco
8	Spring R. @ Hwy. 96	17	Spring R. 2 mi. South of Waco
9	Spring R. 0.9 mi. ab. Carthage WWTP	18	Spring R. 3 mi. S. of Waco

For more information call or write:

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